

## **REMARKS**

Claims 1 through 27 continue to be in the case.

New claims 28 through 31 are being submitted

Claims 1 through 7 are being amended.

The new claims have the following basis;

Claim:      Basis:

28            claim 2 and Fig. 4,

29            claim 3, Fig. 4, and the specification page 37, last line  
                through page 38, first line,

30            claim 4, and Fig. 4,

31            claim 7, and the specification page 11, last paragraph.

The language of amended claims 1, and 6 are based on Fig.4 and the specification. The language of amended claim 5 is based on Fig.4 and the specification.

*The Office Action refers to Claim Rejections - 35 USC § 102*

Claims 1, 2, 4, 6 and 7 stand rejected under 35 U.S.C. 102(b) as being anticipated by Grace et al. (U.S. Pat. No. 4,911,892). Regarding claims 1, 2, 4 and 7, Grace et al. teach a gas sensor comprising a sensor element having a gas sensitive layer (metal oxide film, 34) and wherein the sensor element is electrically heatable with a heating structure (platinum film heater, 28), and wherein the sensor element (34) is disposed in a casing (non-porous glass layer, 32). Grace et al. teach that the casing (32) has a diffusion layer (porous sintered glass layer, 52). It is inherently anticipated that the glass material of which the diffusion layer (52) and the casing (32) is made, is thermally insulating (see col. 5, lines 20 - 68; col. 6, lines 1 - 65; figures 2, 2A, 4 & 5).

The rejection is respectfully traversed.

According to the reference Grace et al., the layer 32 is a ring-like structure, which surrounds a film of metal oxide powder particles (reference Grace et al., column 5, line 31 and 37). No inner chamber as required in claims 28 and 30 of the present application is taught in the Grace et al. reference.

According to the reference Grace et al., column 6, lines 45 to 51, a porous sintered glass layer (52) is positioned atop the filter layer (35) and according to Fig. 5 of the Grace et al. reference the filter layer is disposed next to the metal oxide film (34) (reference Grace et al., Fig.5). According to new claim 28 of the present application in contrast, an inner chamber is formed between the metal oxide layer and a diffusion layer.

According to the reference Grace et al., the element 28 is a platinum film heater. New claim 31 requires a structured platinum resistance layer or layer of another material with a pronounced temperature coefficient as a heating structure, No such heating structure of claim 31 of the present application is taught in the Grace et al. reference.

*The Office Action refers to Claim Rejections - 35 USC § 103.*

Claims 3 and 5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Grace et al. in view of Klass et al. (U.S. Pat. No. 3,864,628). Grace et al. do not specifically teach the incorporation of a gas-permeable plastic foil, or a gas-permeable Teflon membrane or filter. Grace et al. do teach that the sensing apparatus is used to determine the presence and concentration of selected polluting, toxic and combustible

gases (see col. 4, lines 5 - 15). Klass et al. teach that different gases have different characteristic time-responses with particular membranes. Such membranes are generally selected so that the permeation of the gas to be sensed is high relative to the permeability constants of the other gases which may be present in a gas mixture. Klass et al. teach a gas sensor which incorporates the use of a gas-permeable Teflon membrane in a sensor used in the detection of hydrogen gas (see col. 3, lines 47 - 68; col. 4, lines 1 - 57). Furthermore, the Courts have held that the selection of a known material, based upon its suitability for the intended use, is within the ambit of one of ordinary skill in the art. See *In re Leshin*, 125 USPQ 416 (CCPA 1960). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the use of a Teflon membrane, as taught by Klass et al., with the sensing apparatus, as taught by Grace et al., in order to provide for effective hydrogen gas sensing.

Applicant respectfully disagrees.

Claim 1 of the present application requires that the sensor element is disposed in the interior of a casing (40).

The sensor element of Grace et al. is not enclosed by a casing.

Claim 5 of the present application requires that the foil is made out of Teflon and the foil is tightly attached to a casing jacket (48).

The reference Grace et al. teaches that a diffusion layer (52), a filter layer (35), an insulating layer (48) and the metal oxide film (34) are tightly attached one by one (reference Grace et al., Fig.5 and Col. 6, lines 45-57). Further the reference Grace et al. teaches Col. 6, lines 47-50 , “the glass layer (52) provides increased mechanical stability to the powder materials comprising the filter layer (35) and the metal oxide film (34) on the substrate (22)”. Hence if the use of a Teflon membrane, as taught by Klass et al., is incorporated with the sensing apparatus, as taught by Grace et al., then this will lead to a non-functioning of the sensing apparatus of Grace et al.

Therefore claims 5 defines the invention over the references Grace et al. and Klass et al.

Claim 29 of the present application requires that the gas permeable plastic foil (47) forms a cover face of the casing (40).

No cover face is taught in the reference Grace et al.

Reconsideration of all outstanding rejections is respectfully requested.

All claims as presently submitted are deemed to be in form for allowance and an early notice of allowance is earnestly solicited.

Respectfully submitted,

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